SWIMMING POOL GUIDELINES

All information in this handout pertains to residential pools. The Town of Simsbury is offering this informational handout as representative of typical issues/questions that may arise on a typical job. It does not represent the full code text. The Town assumes no responsibility for any errors, omissions, and the installer is required to follow all applicable state and local codes. For additional information please refer to the 2012 IRC and Connecticut State Building code and all state regulations.

When is a permit required?

Any pool or spa that is 24 inches deep (measured by height of walls) or having a surface area of more than 250 square feet and permanently equipped with a water recirculation system are required to have an approved permit and follow all safety measures.

Hot tubs and spas, even though they are often less than 250 sq ft, always have a permanent recirculation system and therefore require a code complaint barrier such as a lockable safety cover which complies with ASTM F1346-91.

Inflatable pools which contain water over 24 inches deep require a pool barrier which is typically a fence enclosure. The inflatable walls are not a code compliant pool barrier.

Permit Application

1. Building plans for pool including:
    - Proposed size and materials
    - Proposed enclosures for safety and equipment including fence, gate, ladder, and alarm information
    - Pool suction outlet specifications

2. Plot plan showing pool to scale including any decking , fence enclosures and pool equipment

3. Building Permit Application signed by owner or licensed contractor and fee paid ($14.26 per $1,000 of project cost)

4. Electrical Permit Application signed by licensed electrician and fee paid ($14.26 per $1,000 of project cost)

5. Zoning Compliance Form completed ($25 application fee) for required setback, wetlands and flood zone review

6. Septic approval from Farmington Valley Health District (fvhd.org) indicating proper distance from septic system (above ground- 10 ft, In-ground 25 ft) or Water Pollution Control Authority (town sewer) approval form.

Inspections Required:

1. Trench and bonding- electrical trench depth verifications and bonding of the pool and metal appurtenances including metal reinforcing for gunite pools.
2. Final electrical – location of equipment and GFCI protection.
3. Final/Certificate of Occupancy- access protection must be complete before pool can be filled or used.

Summary of Requirements:

1. An enclosure that is at least 4 ft high is required to completely surround all swimming pools, including a temporary fence for in-ground pools prior to filling.

2. The enclosure must have a self-closing, self-latching gate that swings outward, away from the pool.

3. Any doors from the home that provide direct access to the pool shall either have an alarm, a self-closing, self-latching device 54 inches above the floor, or there should be a safety cover over the pool. The alarm shall:

    a. Produce an audible warning within 7 seconds of the door and screen opening and sound continuously for 30 seconds minimum;
    b. Have a minimum sound pressure rating of 85 bda at 10 feet;
    c. Automatically reset;
    d. Be capable for temporary manual deactivation for a single opening from either direction that last no more than 15 seconds;
    e. Have a deactivation touch pad/switch located a minimum of 54 inches above door threshold.

4. No accessory electrical outlets are allowed to be less than 10 ft to the pool.

5. The correct size wiring shall be supplied to the pool equipment and is required to be in conduit. A separate 15 or 20 ampere branch circuit with a convenience GFCI receptacle shall be provided between 10 ft and 20 ft from the pool. The trench depth for these circuits shall be 12 inches minimum for the convenience outlet and 18 inches in conduit for the pump motor.

6. All pool and hot tub drains (suction outlets) must have a cover or grate that meets industry standards for suction fittings marked to indicate compliance with ANSI/ASME A112.19.8 2007.

7. Pool water alarm that emits a sound of at least 50 decibels when an object weighing more than 15 pounds enters the water.

8. No pool should be filled with water to a depth above 24 inches until a Certificate of Use is issued.

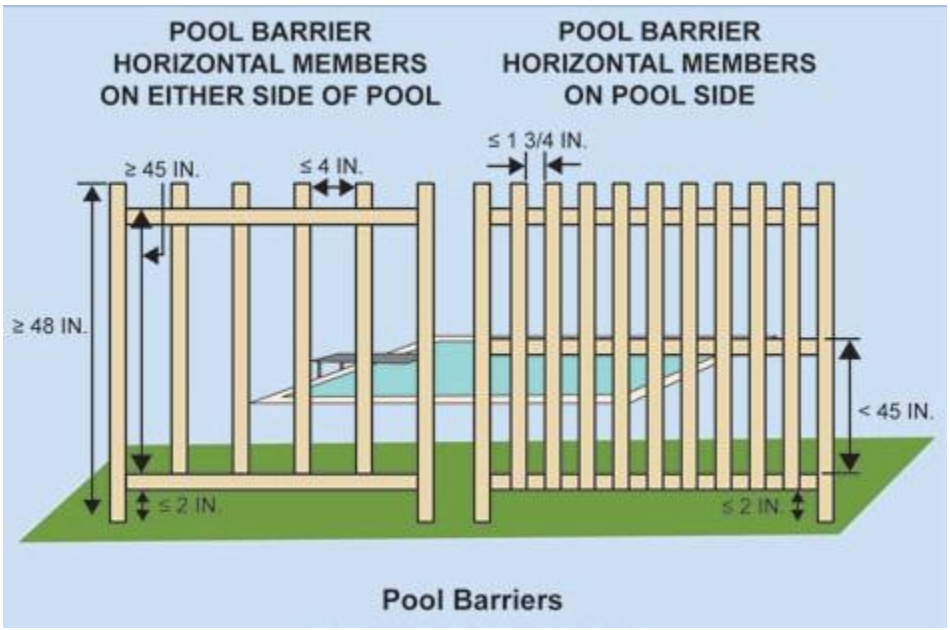
Pool Enclosures

A successful pool barrier prevents a child from getting OVER, UNDER, or THROUGH and keeps a child from gaining access to the pool except when supervising adults are present. Any openings should not allow for the passage for a 4 inch sphere.

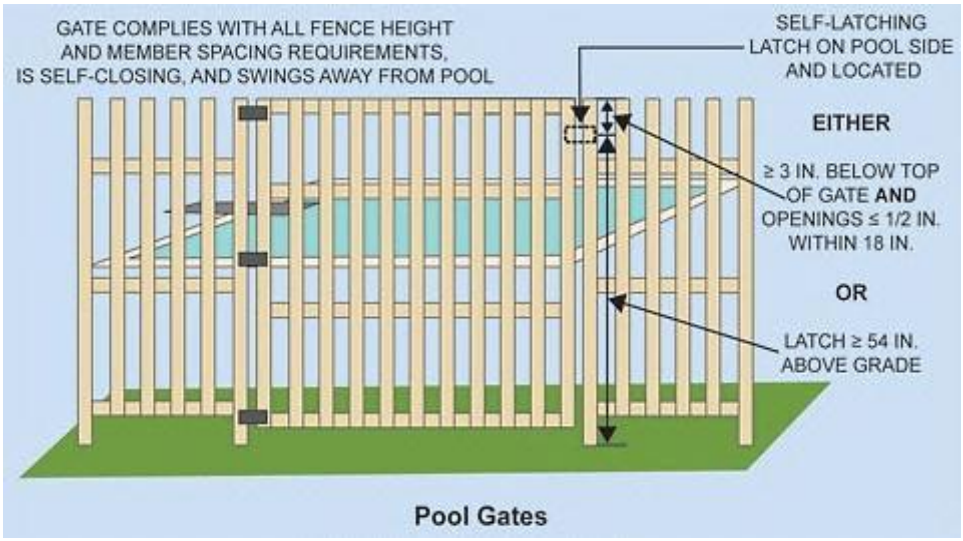
Maximum mesh size for chain link fences shall be a 2 1/4 inch square unless the fence is provided with slats fastened at the top or the bottom which reduce the openings to no more than 1 ¾ inches.

Any solid barrier surfaces cannot contain indentations or protrusions that form handholds or footholds, except for normal construction tolerances and tooled masonry joints.

The sidewall of an above ground pool can be considered part of the barrier provided that the ladder to the pool is an approved enclosure. A flip-up ladder does not constitute a (passive) self-closing device.



Pool Barriers



Pool Gates

Decks

Decks should be designed and installed according to the IRC and additionally:

a. Be slip resistant and cleanable.

b. The difference in the vertical elevation between the pool deck and adjoining sidewalk not greater that ¼ inch.

c. The open gap between the pool deck /walkway should not be greater than ¾ inch.

d. The edges should be radiused, tapered, or otherwise designed to eliminate sharp corners.

e. Designed to prevent accumulation or pooling of water.

Wastewater Guidelines

Pool wastewater should never be discharged into storm drainage system, a pond, stream, or wetland. Prior to discharge, confirm with Conservation and Wetlands Department if part of your property is considered wetland based on soil type (http://simsbury.mapxpress.net/portal.asp to see the GIS map of your property or call 860-658-3252)

The best thing to do is to discharge the pool wastewater onto the ground in a place, away from wetlands, where it will soak in completely and not run off onto another property or into a wetland or storm drain.

Wastewater should have a pH between 6.5 and 8.5 and residual chlorine or bromine levels of less than 1.0mg/l and filter backwash should be less than 3.0mg/l. Pool test kits can help with these measurements.

Call a licensed pool technician with further questions.

Websites and Additional Information Links

http://www.poolsafely.gov

http://www.ct.gov/dcp/cwp/view.asp?Q=521322

https://www.cpsc.gov/safety-education/safety-guides/pools-and-spas

https://www.nspf.org/virginia-graeme-baker-pool-spa-safety-act-online-course

For additional information please refer to the 2015 IRC and Connecticut State Building code.

Date:			RESIDENTIAL POOL CHECKLIST		Code Section	
			Inspector:	Address:		
OK	NG	NA	#		App. G-CT Sup.	Page #
				BARRIER		
			1.	Barrier (fence, pool wall, etc.) shall be not less than 48" above grade and start 2" max above grade	AG 105.1 #1	2 & 4
			2.	Openings shall not allow passage of a 4" diameter sphere	AG 105.2 #2	4
			3.	No indentations/protrusions in solid barriers, such as masonry or stone wall	AG 105.2 #3	2
			4.	When the barrier is composed or horizontal and vertical members < 45" apart:	AG 105.2 #4	2
				a. The horizontal members shall be located on the pool side and the spacing between vertical members shall not exceed 1-3/4" in width		
				b. If there are vertical cutouts within the vertical members, the width of the cutouts shall not exceed 1-3/4".		
			5.	When the barrier is composed of horizontal and vertical members and the distance between the tops of the members is 45" or more:	AG 105.2 #5	3
				a. Spacing between vertical members shall not exceed 4".		
				b. Same as 4b above.		
			6.	Maximum mesh size for chain link fences shall be 2-1/4" square unless the fence is provided with slats fastened at the top and bottom which reduce the openings to not more than 1-3/4".	AG 105.2 #6	3
			7.	Maximum diagonal openings (lattice w/ slats, etc.) are 1-3/4".	AG 105.2 #7	3
			8.	Safety glazing (on pool side) is required in walls and fences enclosing pools that are both within 5' horizontal and 5' vertical of a walking surface (IRC 2003)	R 308.4 #9	6
			9.	Removable or fixed ladder or steps require a barrier which meets items 1-8 above.	AG 105.6 #10	3
				Where an aboveground, on-ground or in-ground pool structure is used as a barrier or where the barrier is mounted on top of the pool structure, and the means of access is a ladder or steps, then the ladder or steps shall be surrounded by a barrier which meets the requirements of Items 1-9 above.	CT Sup. AG 105.2	
			10.	Barriers mounted on top of pool structures require < or = 4" from bottom of barrier to top of pool.	AG 105.2 #1	4
				ACCESS GATES		
			11.	Gate material shall comply with Items 1-8 above.	AG 105.2 #8	
			12.	All gates shall be equipped to accommodate a locking device.		4
			13.	Pedestrian access gates shall open outward, away from pool.		4 & 5
			14.	Pedestrian access gates shall be self-closing and self-latching.		4
			15.	Other access gates shall have a self-latching device.		4
			16.	When the release mechanism or the self-latching device is located < 54" from the bottom of the gate, the release mechanism shall be located on the pool side, at least 3" below the top of the gate, and the gate and barrier shall have no openings > ½" within 18" of the release mechanism.		5
				Doors Providing Direct Access To The Pool Enclose (Use one option)		
			17.	Option 1 – Be equipped with an audible alarm that operates when the door and its screen, if present, are opened. The alarm shall:	AG 105.2.9 #9.2	5 & 6
				a. Commence < 7 seconds after the door/screen is opened and shall sound continuously for a minimum of 30 seconds.		
				b. Be capable of being heard throughout the house during normal activities.		
				c. Automatically reset under all conditions.		
				d. Be equipped with manual means (touchpads, switches) located at least 54" above the door threshold to deactivate the alarm for not more than 15 seconds when opening the door/screen from either direction.		5 & 6
			18.	Option 2 – Be equipped with a power safety cover capable, when closed, or holding 485 pounds and shall:	AG 105.2.9 #9.1 (ASTM F1346-91)	5 & 6
				a. Not have openings > 4-1/2" and shall drain standing water.		
				b. Have a permanently installed, key operated, control switch (spring lodaded or momentary contact type) that, when released, changes direction immediately. The switch shall be in the line of sight of the complete pool cover.		
			19.	Option 3 – Be equipped with a self-closing and self-latching device with the release mechanism located a minimum of 54" inches above the door threshold. Swinging doors must open away from the pool area.	AG 105.2.9 #9.3	5 & 6
				POOL ALARMS		
			20.	Any new or substantial alteration or a residential pool must have an alarm that emits a sound of at least 50 decibels when a person or an object weighing 15 pounds or more enters the water in a pool.	CT Sup. AG 105.7	5

Date:			RESIDENTIAL POOL CHECKLIST – ELECTRICAL				Code Section		
			Inspector:			Address:			
OK	NG	NA	#				NEC 2002	IRC 2003	Draw
				WIRING			Article 680	Chp. 41	#
			1.	No receptacles within 10' of the pool edge (5' for pool equip. receptacle).			680.22.A.1	E 4103.1.1	7
			2.	At least one GFCI convenience receptacle between 10'-20' from pool.			680.22.A.3	E 4103.1.2	7
			3.	Convenience receptacle and pump cannot be on same circuit.			210.23.A.2	E 3602.3	
			4.	Pump receptacle within 10' from pool edge shall be GFCI, locking ground type (except if hardwired).			680.22.A.1	E 4103.1.1	7
			5.	Pump receptacle grounding conductor not less than #12 AWG, insulated.			680.22.A.1	E 4105.5	
			6.	All 125V/15-20A receptacles less than 78' above ground to be GFCI:			680.22.A.3	E 4103.1.2	
			7.	a. Existing light fixtures < 5' from pool shall be 5' above water and GFCI.			680.22.B.3	E 4103.4.3	8
				b. All light fixtures 5'10' from pool shall be GFCI unless 5' above water.			680.22.B.4	E 4103.4.5	
			8.	Switches shall be not less than 5' horizontally from pool except when located behind a solid barrier.			680.22.C	E 4103.2	
			9.	Maximum pool equipment flex cord length is 3' (20A or less) with #12 equipment bonding conductor except underwater lighting fixtures.			680.21	E4102.2.1	
			10.	Wiring Method	Type	Burial Depths	Table 680.10	E 4102.2.2	
				Rigid metal conduit	MC	Not less than 6"		Tbl. E 4103.6	
				Intermediate metal conduit	IMC	Not less than 6"			
				Ridge non-metallic conduit	NMC	Not less than 18"			
			11.	Bonding required; #8 solid AWG copper for the following:			680.26.C	E 4104.1.4	8
				a. Structural reinforcing (rebar) of the concrete pool.					
				b. Walls of bolted or welded metal pools.					
				c. All metallic parts of pool structure.					
				d. All fixed metal parts within 5' horizontally from pool edge.					
				e. All pump motors, filter casings and other metal electrical equipment associated with the pool					
				DOORS PROVIDING DIRECT ACCESS TO THE POOL					
			12.	Option 1 – Be equipped with an audible alarm that operates when the door and its screen, if present, are opened. The alarm shall:			AG 105.2.9 #9.2		5 & 6
				a. Commence < 7 seconds after the door/screen is opened and shall sound continuously for a minimum of 30 seconds.					
				b. Be capable of being heard throughout the house during normal activities.					
				c. Automatically reset under all conditions.					
				d. Be equipped with manual means (touchpads, switches) located at least 54" above the door threshold to deactivate the alarm for not more than 15 seconds when opening the door/screen from either direction.					5 & 6
			13.	Option 2 – Be equipped with a power safety cover capable, when closed, or holding 485 pounds and shall:			AG 105.2.9 #9.1		5 & 6
				a. Not have openings > 4-1/2" and shall drain standing water.			(ASTM		
				b. Have a permanently installed, key operated control switch (spring loaded or momentary contact type) that, when released, changes direction immediately. The switch shall be in the line of sight of the complete pool cover.			F3416-91)		
			14.	Option 3 – Be equipped with a self-closing and self-latching device with the release mechanism located a minimum of 54" above the door threshold. Swinging doors must open away from the pool area.			AG 105.2.9 #9.2		5 & 6
				POOL ALARM					
			15.	Any new or substantial alteration of a residential pool must have an alarm that emits a sound of at least 50 decibels when a person or an object weighing 15 pounds or more enters the water in a pool.			CT Sup. AG 105.7		5